

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BOARD OF PATENT APPEALS AND INTERFERENCES

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In re Application of:	:	Examiner: Aditya S. Bhat
	:	
Michel MARTHIA et al.	:	
	:	
For: METHOD FOR ANALYZING	:	
A DRIVE SYSTEM	:	Art Unit: 2863
	:	
Filed: April 12, 2004	:	
	:	
Serial No.: 10/823,525	:	

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Mail Stop Appeal Brief - Patents
 Commissioner for Patents
 P.O. Box 1450
 Alexandria, VA 22313-1450

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office via the Office electronic filing system on August 23, 2007.

Signature: /Clifford A. Ulrich/

TRANSMITTAL OF APPEAL BRIEF PURSUANT TO 37 C.F.R. § 41.37

S I R:

Transmitted herewith for filing in the above-identified patent application is an Appeal Brief Pursuant to 37 C.F.R. § 41.37.

The Director is hereby authorized to charge payment of the 37 C.F.R. 41.20(b)(2) Appeal Brief fee of **\$ 500.00** to the deposit account of Kenyon & Kenyon LLP, deposit account number **11-0600**. Additionally, Applicants hereby request a **two-month extension of time** for filing the Appeal Brief. A Notice of Appeal was filed on April 17, 2007 and is believed to have been received by the United States Patent and Trademark Office on April 23, 2007 for which a two month response period to file an Appeal Brief, expiring on June 23, 2007, was set. The two-month extended period for response expires on **August 23, 2007**. Please charge the 37 C.F.R. § 1.136(a) two-month extension fee of **\$450.00** and any other fee that may be required to Deposit Account No. **11-0600**. The Director is also authorized to charge any additional fees or credit any overpayment in connection with this paper to Deposit Account 11-0600.

Respectfully submitted,

Dated: August 23, 2007

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APPEAL BRIEF PURSUANT TO 37 C.F.R. § 41.37

SIR:

On April 17, 2007, Appellant submitted a Notice of Appeal from the last decision of the Examiner contained in the Final Office Action dated October 18, 2006 in the above-identified patent application. The Notice of Appeal is believed to have been received by the United States Patent and Trademark Office on April 23, 2007.

In accordance with 37 C.F.R. § 41.37, this brief is submitted in support of the appeal of the rejection of claims 1 to 5. For at least the reasons set forth below, the final rejection of claims 1 to 5 should be reversed.

1. REAL PARTY IN INTEREST

The real party in interest in the present appeal is ETEL S.A. of Môtiers, Swiss Confederation, which is the assignee of the entire right, title and interest in and to the present application.

2. RELATED APPEALS AND INTERFERENCES

There are no other prior or pending appeals, interferences or judicial proceedings known by the undersigned, or believed by the undersigned to be known to

Appellant or the assignee, ETEL S.A., “which may be related to, directly affect or be directly affected by or have a bearing on the Board’s decision in the pending appeal.”

3. STATUS OF CLAIMS

Claims 1 to 5, 8 and 9 are pending.

Claims 6 and 7 have been canceled.

Claims 8 and 9 have been allowed.

Claims 1 to 5 stand rejected under 35 U.S.C. § 101.

A copy of the appealed claims, *i.e.*, claims 1 to 5, is attached hereto in the Claims Appendix.

4. STATUS OF AMENDMENTS

In response to the Final Office Action dated October 18, 2006, Appellant submitted a “Reply Under 37 C.F.R. § 1.116” (“the Reply”) on December 18, 2006. The Reply included no proposed amendments to the claims.

5. SUMMARY OF CLAIMED SUBJECT MATTER

Independent claim 1 relates to a method for analyzing a drive system 1 by determining an open loop transfer function of a target system 2 that is part of the drive system 1 in a closed loop configuration. *Specification*, page 2, lines 16 to 18, page 5, lines 22 to 24, and Figure 1. Claim 1 recites successively applying a plurality of noise signals to the drive system as input signals, the noise signals covering different frequency ranges. *Specification*, page 2, lines 18 to 20, page 6, lines 12 to 13. Claim 1 recites determining a transfer function of a target system within the drive system in accordance with the noise signals applied to the drive system in the applying step. *Specification*, page 2, lines 26 to 28. Claim 1 recites that the transfer function of the target system in an open control loop is determined in accordance with difference signals applied to the target system and corresponding output signals. *Specification*, page 3, lines 1 to 3. Claim 1 recites that the determining step includes evaluating a frequency-dependent attenuation and a phase shift between the difference signals and the output signals. *Specification*, page 3, lines 4 to 5.

Independent claim 4 relates to a method for analyzing a drive system 1. *Specification*, page 2, lines 16 to 17. Claim 4 recites successively applying a plurality of noise signals to the drive system as input signals, the noise signals covering different frequency ranges. *Specification*, page 2, lines 18 to 20, page 6, lines 12 to 13. Claim 4

recites determining a transfer function of a target system within the drive system in accordance with the noise signals applied to the drive system in the applying step. *Specification*, page 2, lines 26 to 28. Claim 4 recites that the noise signals include noises in several frequency bands that always begin at a same lower cutoff frequency and end at a different upper cutoff frequency, the input signal having a widest frequency band completely covering a frequency range to be tested. *Specification*, page 2, lines 33 to 35.

Independent claim 5 relates to a method for analyzing a drive system 1. *Specification*, page 2, lines 16 to 17. Claim 5 recites successively applying a plurality of noise signals to the drive system as input signals, the noise signals covering different frequency ranges. *Specification*, page 2, lines 18 to 20, page 6, lines 12 to 13. Claim 5 recites determining a transfer function of a target system within the drive system in accordance with the noise signals applied to the drive system in the applying step. *Specification*, page 2, lines 26 to 28. Claim 5 recites that the noise signals include one of (a) non-overlapping frequency ranges and (b) frequency ranges that overlap slightly, the frequency ranges together covering a frequency range to be tested. *Specification*, page 2, lines 36 to 38.

6. **GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

Whether claims 1 to 5 are patentable under 35 U.S.C. § 101.

7. **ARGUMENT**

Claims 1 to 5 were rejected under 35 U.S.C. § 101. Appellants respectfully submit that the present rejection should be reversed for at least the following reasons.

As an initial matter, the Final Office Action completely fails to set forth a *prima facie* case of unpatentability. It is, of course, well settled that the **Office** bears the initial burden of presenting a *prima facie* case of unpatentability. *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992). The Final Office Action does nothing more than set forth a number of form paragraphs followed by a request on page 2 for Appellants to “[p]lease view the following guidelines to overcome 35 U.S.C. 101 rejection made in this office action.” As stated in M.P.E.P. § 2106, “if USPTO personnel determine that it is more likely than not that the claimed subject matter falls outside all of the statutory categories, **they must provide an explanation**” (emphasis added). This, the Final Office Action does not in any manner do. The Advisory Action, dated January 30, 2007, does not

cure this deficiency. In this regard, the “Continuation Sheet” of the Advisory Action appears to include nothing more than a regurgitation of M.P.E.P. § 2106(IV)(C)(2).

In any event, the Final Office Action and the Advisory Action plainly fail to set forth on the record why claims 1 to 5 are considered to not comply with the requirements of 35 U.S.C. § 101. As such, the present rejection should be reversed for this reason alone.

Notwithstanding the foregoing, Appellants respectfully submit that the present claims fully comply with the requirements of 35 U.S.C. § 101 for at least the following reasons.

As an initial matter, claims 1 to 5 relate to a method, which is squarely within one of the four categories set forth in 35 U.S.C. § 101, *i.e.*, a process. Neither the Final Office Action nor the Advisory Action provides any explanation whatsoever of whether or why claims 1 to 5 may be considered to fall outside of all of the statutory categories set forth in 35 U.S.C. § 101.

Furthermore, claims 1 to 5 are not within any of the three exceptions to the four statutory categories. That is, claims 1 to 5 are not directed to nothing more than abstract ideas, laws of nature or natural phenomena. While it is stated in M.P.E.P. § 2106 that “abstract ideas, natural phenomena, and laws of nature are not eligible for patenting, methods . . . employing abstract ideas, natural phenomena, and laws of nature to perform a real-world function may well be” (emphasis added). However, neither the Final Office Action nor the Advisory Action provides any explanation whatsoever of whether or why claims 1 to 5 may be considered to be directed to abstract ideas, laws of nature or natural phenomena. To the extent that the Final Office Action may consider claims 1 to 5 to be directed to abstract ideas, laws of nature or natural phenomena, the method according to claims 1 to 5 sufficiently transforms an article or physical object to a different state or thing or otherwise sufficiently produces a useful, concrete and tangible result to constitute a practical application of an abstract idea, law of nature or natural phenomena.

Claims 1, 4 and 5, for example, recite that the method includes “successively applying a plurality of noise signals to [a] drive system as input signals.” A successive application of a plurality of noise signals to a drive system is a sufficient transformation or reduction of an article, *e.g.*, a drive system, to a different state or thing. As stated in M.P.E.P. § 2106, “[i]f USPTO personnel find such a transformation or reduction, USPTO personnel shall end the inquiry and find that the claim meets the statutory requirements of 35 U.S.C. 101” (emphasis added).

To the extent that claims 1 to 5 may have been determined to not entail the transformation or reduction of an article, claims 1 to 5 sufficiently produce a useful, concrete and tangible result. As stated in M.P.E.P. § 2106, “the focus is not whether the steps taken to achieve a particular result are useful, tangible, and concrete, but rather on whether the final result achieved . . . is ‘useful, tangible, and concrete.’” For a claim to be “useful,” it must satisfy the utility requirement, *i.e.*, specific, substantial and credible utility must be provided. There is nothing in the record to indicate or suggest whether or why claims 1 to 5 may be considered to not satisfy the utility requirement. Indeed, it appears from the Continuation Sheet of the Advisory Action that the claims are considered to satisfy the utility requirement. Furthermore, a transfer function is useful for controlling a drive system. For example, one may learn a significant amount about a drive system’s performance and stability from such a transfer function. Thus, it is unquestionable that the claimed methods provide a useful result.

For a claim to satisfy the “concrete” requirement, the process must have a result that can be substantially repeatable or the process must substantially produce the same result again. There is nothing in the record to indicate or suggest whether or why claims 1 to 5 may be considered to not satisfy the concrete requirement. Indeed, it appears from the Continuation Sheet of the Advisory Action that the claims are considered to satisfy the concrete requirement.

For a claim to satisfy the “tangible” requirement, the claim must recite more than a § 101 judicial exception. The present claims plainly recite more than the judicial exceptions of abstract ideas, laws of nature and natural phenomena. There is nothing in the record to indicate or suggest whether or why claims 1 to 5 may be considered to not satisfy the tangible requirement. Indeed, any review of claims 1 to 5 make plainly apparent that they recite more than judicial exceptions.

Finally, none of the present claims preempt a judicial exception, and there is nothing in the record to include or suggest whether or why claims 1 to 5 may be considered to preempt a judicial exception.

Having stepped through the analysis set forth in M.P.E.P. § 2106, it is plainly apparent that claims 1 to 5 fully constitute eligible subject matter and are fully compliant with the requirements of 35 U.S.C. § 101.

In view of all of the foregoing, reversal of this rejection is respectfully requested.

8. CLAIMS APPENDIX

A “Claims Appendix” is attached hereto and appears on the two (2) pages numbered “Claims Appendix 1” to “Claims Appendix 2.”

9. EVIDENCE APPENDIX

No evidence has been submitted pursuant to 37 C.F.R. §§ 1.130, 1.131 or 1.132. No other evidence has been entered by the Examiner or relied upon by Appellant in the appeal. An “Evidence Appendix” is nevertheless attached hereto and appears on the one (1) page numbered “Evidence Appendix.”

10. RELATED PROCEEDINGS APPENDIX

As indicated above in Section 2, above, “[t]here are no other prior or pending appeals, interferences or judicial proceedings known by the undersigned, or believed by the undersigned to be known to Appellant or the assignee, ETEL S.A., ‘which may be related to, directly affect or be directly affected by or have a bearing on the Board’s decision in the pending appeal.’” As such, there no “decisions rendered by a court or the Board in any proceeding identified pursuant to [37 C.F.R. § 41.37(c)(1)(ii)]” to be submitted. A “Related Proceedings Appendix” is nevertheless attached hereto and appears on the one (1) page numbered “Related Proceedings Appendix.”

11. CONCLUSION

For at least the reasons indicated above, Appellant respectfully submits that the present claims fully satisfy the requirements of 35 U.S.C. § 101. Accordingly, it is respectfully submitted that the subject matter as set forth in the claims of the present application is patentable.

In view of all of the foregoing, reversal the rejection set forth in the Final Office Action is respectfully requested.

Respectfully submitted,

Dated: August 23, 2007

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CLAIMS APPENDIX

1. A method for analyzing a drive system by determining an open loop transfer function of a target system that is part of the drive system in a closed loop configuration, comprising:

successively applying a plurality of noise signals to the drive system as input signals, the noise signals covering different frequency ranges; and

determining a transfer function of a target system within the drive system in accordance with the noise signals applied to the drive system in the applying step;

wherein the transfer function of the target system in an open control loop is determined in accordance with difference signals applied to the target system and corresponding output signals; and

wherein the determining step includes evaluating a frequency-dependent attenuation and a phase shift between the difference signals and the output signals.

2. The method according to claim 1, wherein the noise signals have different intensities.

3. The method according to claim 2, further comprising optimizing the intensities by increasing the intensities in steps until a maximum value of a limiting parameter of the drive system is near a limiting value.

4. A method for analyzing a drive system, comprising:

successively applying a plurality of noise signals to the drive system as input signals, the noise signals covering different frequency ranges; and

determining a transfer function of a target system within the drive system in accordance with the noise signals applied to the drive system in the applying step;

wherein the noise signals include noises in several frequency bands that always begin at a same lower cutoff frequency and end at a different upper cutoff frequency, the input signal having a widest frequency band completely covering a frequency range to be tested.

5. A method for analyzing a drive system, comprising:

successively applying a plurality of noise signals to the drive system as input signals, the noise signals covering different frequency ranges; and

determining a transfer function of a target system within the drive system in accordance with the noise signals applied to the drive system in the applying step;

wherein the noise signals include one of (a) non-overlapping frequency ranges and (b) frequency ranges that overlap slightly, the frequency ranges together covering a frequency range to be tested.

EVIDENCE APPENDIX

No evidence has been submitted pursuant to 37 C.F.R. §§1.130, 1.131, or 1.132. No other evidence has been entered by the Examiner or relied upon by Appellant in the appeal.

RELATED PROCEEDINGS APPENDIX

As indicated above in Section 2 of this Appeal Brief, “[t]here are no other prior or pending appeals, interferences or judicial proceedings known by the undersigned, or believed by the undersigned to be known to Appellant or the assignee, ETEL S.A., ‘which may be related to, directly affect or be directly affected by or have a bearing on the Board’s decision in the pending appeal.’” As such, there no “decisions rendered by a court or the Board in any proceeding identified pursuant to [37 C.F.R. § 41.37(c)(1)(ii)]” to be submitted.